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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,704	10/25/2000	Axel Thomsen	50246-171	1502

7590 05/19/2003

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EXAMINER

DO, CHAT C

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 05/19/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

Office Action Summary

Application No.

09/695,704

Applicant(s)

THOMSEN ET AL.

Examiner

Chat C. Do

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/25/00; 1/1/01; 4/9/01; 10/25/01; 7/9/01.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following many reference signs not mentioned in the description. For examples, the reference signs are not mentioned in the description of Figures 1.2 A, 1.2 B, 1.3... A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. Figures 1.2C and 1.4 should be designated by a legend such as --Prior Art-- because it illustrates a typical FIR filter. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because the line "WDC99 337570-1.050246.0171" must be removed. Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities:

The applicant is advised to update information in the cross-references to related applications in pages 1-2.

Equation in line 11 page 3 is missing right bracket. It should be " $Y(z) = \text{Sum} (A_i * X * Z^{-1})$ ".

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There are many drawings that are not clearly mentioned in the specification such as drawings 1.2 A, 1.2 B, 1.3, 1.5X...

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Even though, the specification briefly mentions the output mechanism selectively providing either the fully settle data or all data from the FIR filter. However, the specification does not clearly explain in fully detail how the integrated circuit is structured and operated to provide a control mechanism for selectively providing the desire data from the FIR filter.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, it is indefinite by what the limitations "fully settle data" and "all data" mean. For examination purposes, the examiner considers the limitations "fully settle data" as the output data from an FIR filter only when input data are fully filled and "all data" as the normal output data from an FIR filter. Claims 7-8 have the same problem. Thus, claims 2-6 are also rejected for being dependent on the rejected claim 1.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being obvious over Cabler et al. (U.S. 5,656,621).

Re claim 1, Cabler et al. disclose in Figure 39 an integrated circuit comprising: an analog to digital converter (900) and an FIR filter (902). Cabler et al. does not disclose an output mechanism selectively providing either only fully settled data from the FIR filter or all data from the FIR filter, including unsettled data. However, Cabler et al. disclose in Figure 2 an output mechanism (602) selectively providing either a partial result or a full result from the FIR filter (677) using a control signal (604). In addition, it is obvious in the art to obtain the fully settled data from the FIR filter. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add an output mechanism selector in Figure 2 for selecting the

desired results to the FIR filter in Figure 1 of Cabler et al. because it would enable the operator to select the desired signals, to reduce the initial unsteady state, and to increase the immunity from the process variation.

Re claim 2, Cabler et al. further disclose the output mechanism comprises an external pin on the integrated circuit to which a user can apply a control signal to control the selection of fully settled data from the FIR filter or all data from the FIR filter including unsettle data (604 in Figure 2).

Re claim 3, Cabler et al. further disclose the output mechanism comprises an one or more bits on a register of the integrated circuit to which a user can set to control the selection of fully settled data from the FIR filter or all data from the FIR filter including unsettle data (566 in Figure 7).

Re claim 4, Cabler et al. further disclose one or more bits on a register of the integrated circuit are set over a serial port interface (570 in Figure 7).

Re claim 5, Cabler et al. further disclose the analog to digital converter is a delta sigma modular (900).

Re claim 6, Cabler et al. further disclose the FIR filter is a decimation filter (902).

Re claim 7, it is a design method of claim 1. Thus, claim 7 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 8, it is a fabricated method of claim 1. Thus, claim 8 is also rejected under the same rationale in the rejection of rejected claim 1.

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Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 5,917,735 to Ko discloses an apparatus and method for compensating for timing and phase error using a poly-phase filter.
- b. U.S. Patent No. 5,600,582 to Miyaguchi discloses a programmable horizontal line filter implemented with synchronous vector processor.
- c. U.S. Patent No. 5,632,246 to Page et al. disclose a linear phase FIR sinc filter with multiplexing.
- d. U.S. Patent No. 5,027,306 to Dattorro et al. disclose a decimation filter as for a sigma-delta analog-to-digital converter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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Chat C. Do
Examiner
Art Unit 2124

May 8, 2003

A handwritten signature in black ink, appearing to read 'CDN', is positioned above the printed name of the examiner.

**CHUONG DINH NGO
PRIMARY EXAMINER**